can be painlessly treated, and, on that account, more thoroughly than without local anæsthesia. Small tumors, even of malignant nature, as one case showed, can be easily and completely removed.

If the inflammatory and painful area extends, as in one case, into the lower part of the cavum conchæ, the author recommends, in addition to the typical injection before and behind the canal, the one below the concha. This latter injection alone being sufficient to permit operations upon the lobule without sensation of pain.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
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Racial Differences in Strains of Typhoid Bacillus, and the Inhibiting Substances in Serum and Their Importance for the Gruber-Widal Reaction.—FALTA and NOEGGERATH (*Deut. Arch. f. klin. Med.*, 1905, Band lxxxiii. p. 150), in their work upon the agglutination of typhoid bacilli, bring out certain important points bearing upon the practical application of the Grüber-Widal reaction. From their investigations they conclude that the delayed agglutination or complete failure of agglutinations of the serum of certain cases of typhoid fever is to be explained in the first place by the fact that the strains of typhoid bacilli used for the reaction are only slightly agglutinable for that particular serum. This error may be rectified by using many types of typhoid bacilli. Substances which inhibit agglutination are frequently found in fresh human and animal typhoid serum. Often they may be demonstrable for the first time toward the end of an attack, though sometimes they are entirely absent. These substances are not identical with the proagglutinoids of Eisenberg and Volk, but are more nearly allied to some of the by-products of the thermolabile agglutinins of Joos. When they are present in large amounts they may give the false impression of a negative reaction.

Contribution to Our Knowledge of the Anticoagulating Substances of the Blood and Tissues.—CONRADI has demonstrated that the juice expressed from the organs and tissues of animals accelerates in an extraordinary way the coagulation of blood, while autolysis of the organs gives rise to substances which retard or suspend coagulation.

Pugliese (*Jour. de phys. et de path. gen.*, 1905, tome vii. p. 437) has discovered that from saline extracts which favor coagulation an antithrombine can also be obtained. Of more importance is the fact, which the author believes he has demonstrated for the first time, that an anticoagulating substance is present in the blood itself, or at least in the blood of dogs and certain birds. The blood of birds gives an extract which is more active than that of dogs, but contains less antithrombine than peptone blood. Pugliese concludes that in the blood there are coagulating and anticoagulating substances, which, as has been suggested by Ellinger and Spiro, may circulate in equilibrium. The first may be produced directly in the blood by the destruction of the formed elements, while the second or anticoagulating substances are thrown into the circulation by the organs and tissues, especially the liver. These anticoagulating substances pass through the circulatory system and neutralize the thrombine or arrest the transformation of zymogen into fibrin ferment. When the blood is drawn from the vessels it no longer receives anticoagulating substances from the tissues, and therefore only remains liquid for a varying time, depending upon the amount of antithrombine which it contains.

Enzymes and Antienzymes of Inflammatory Exudates.—Opie (*Journal of Experimental Medicine*, 1905, vol. vii. p. 316) has studied, by means of autolysis, the proteolytic ferments in sterile exudates obtained by injections of aleuronat into the pleural cavity of dogs. The cells of the purulent exudate, as it is obtained, contain a ferment twenty-four to forty-eight hours after injection, though the ferment action is more marked three or four days after injection of the aleuronat. The amount of proteolytic digestion was determined by estimating the nitrogen of the uncoagulable proteid of the autolysed exudates. The cells of the exudates washed free of serum showed much greater autolysis than the original fluid, and further experiments showed that this fact was due to the presence of an antienzymotic action of the serum. This power of inhibiting the action of the proteolytic ferments contained in the leukocytes is also present in the blood serum, whence it probably passes into the inflammatory exudate. The antibody contained in the serum is destroyed by a temperature of 75° C. The proteolytic ferments of the leukocytes act both in an acid and in an alkaline medium, but are most efficient in the latter. The antienzymotic action of the serum is favored by an alkaline reaction, but is completely lost in an acid medium.

Experimental Studies in Yellow Fever and Malaria.—*Bulletin* No 14, Yellow Fever Institute, forms the report of Working Party No. 2, under the direction of Rosenau, Parker, Francis, and Beyer. The work of this party was carried on at Vera Cruz, Mexico, during the late summer and autumn of 1903. The party directed its work, especially toward investigating the cause of yellow fever. They first studied the bodies described by Parker, Beyer, and Pothin as myxococcidium stegomyiæ, which were considered to be animal parasites in mosquitoes. The party found these bodies, however, in many normal mosquitoes, and from their work conclude that they are yeast cells. They were unable to find in the blood of yellow fever patients, by the use of various stains, anything that might bear a casual relation to the disease, although they